

Abstract:

Title: Comparative Evaluation of dimensional changes and accurate reproduction of details of 3 types investment gypsums.

Introduction: Gypsum products are probably more than any other material for serving of dental profession. Gypsum products are used with few modifications for several different purposes, this thesis aims to Comparative Evaluation of dimensional changes and accurate reproduction of details of 3 types investment gypsums.

Materials and Methods: This study was quasi-experimental in vitro study, The statistical population of this study is an Iranian type IV gypsum packed in the country (Zergoon Tab Iranian Company, G30) and two types of external plaster (YETI Rock, Germany) and (GC Fujirock EP, GC America). The statistical sample of this study included 60 samples in 3 groups of 20 each. Data were recorded by checklists and data registration form for all the studied forms and entered into SPSS 22 software. Statistical analyzes were performed according to the type of variable and the purpose of data distribution. Statistical methods fitted with specific goals in cases where dimensions and dimensions were used in 3 groups of Iranian, German and American gypsum, the ANOVA test was used. For other purposes, the details of which "has and does not exist" in 3 groups, Chi-square test was used.

Results: The results of this study showed that the best situation in the Ability to reconstruct details of the GC Fujirock EP gypsum was ranked first, YETI Rock ranked second and G30 ranked last. The results also showed that there is a significant difference in the dimensional changes of the studied gypsum based on time ($P \leq 0.05$). There is also a significant difference in the ability to reconstruct the details of three types of gypsum ($P \leq 0.05$).

Conclusion: To achieve the best result in the restoration of full details of gypsum used GC Fujirock EP. Also, in order to obtain the best result in dimensional changes in the YETI Rock, Germany plaster and gelatin company Zergon Tab, Iran, G30; 2 hours to be considered.

Key words: dimensional change; Reproduction of details; investment Gypsum.